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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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00-553-827 07/21/00 CLARK

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EXAMINER

MMC2/0705

GARY S ENGELSON
WOLF GREENFIELD & SACKS PC
600 ATLANTIC AVENUE
BOSTON MA 02210-2211

ART UNIT	PAPER NUMBER
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2831

DATE MAILED:

07/05/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/532,837

Applicant(s)

CLARK ET AL.

Examiner

Chau N Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the features of a fiber optic element (claims 4&26) or a drain wire (claims 5&27) being disposed in the central cavity must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Specification

2. The disclosure is objected to because of the following informalities: on page 5, reference numeral number "205" is used for both "jacket" and "conductive shield", and the element "jacket" has two reference numbers "203" and "205". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claim 11 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not provide support for “two or more of a solid fluoropolymer, a foamed fluoropolymer, solid polyvinyl chloride and foamed polyvinyl chloride”.

Due to this rejection claim 11 has not been considered over the prior art.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 6-8 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6-8 recite that the central conductive core is formed principally of a solid fluoropolymer, a foamed fluoropolymer, and a polyvinyl chloride. It is vague and indefinite since fluoropolymer and polyvinyl chloride are insulating materials and not conductive materials.

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Claim 13 is considered vague and indefinite. Claim 12 calls for an unshielded cable. However, claim 13 depends on claim 12 and recites a conductive shield disposed about the cable.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8. Claims 1, 2, 12-14 and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Prudhon (5,952,615).

Prudhon discloses a cable comprising a plurality of transmission media, a central conductive core having a surface defining channels within which each of the media is individually disposed, and an outer jacket maintaining the media in position with respect to the core. Prudhon also discloses the channels of the core being separated by fins, a conductive shield covering the channels and in contact with the fins, the fins electromagnetically shielding the media from each other, and the fins comprising four fins extending radially outward from a center of the finned element (the core).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 3, 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prudhon in view of Gaeris et al. (5,789,711).

Claims 3 and 5 additionally recite the central core including a central cavity and a drain wire being disposed in the cavity. Gaeris et al. discloses a cable comprising a central core including a central cavity in which a drain wire is

disposed (col. 4, line 65). It would have been obvious to one skilled in the art to modify the finned element of Prudhon (Figs 2 and 3) to have a central cavity such that a drain wire (a metallic wire) or a strength member can be disposed to provide a grounding connection to the cable or to further support the finned element as taught by Gaeris et al.

Claim 17 additionally recites a non-conductive binder that maintains the media in the channels. Gaeris et al. discloses a non-conductive binder (38) around the finned element and the media. It would have been obvious to one skilled in the art to use the non-conductive binder taught by Gaeris et al. in the cable of Prudhon to maintain the media in the channels.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prudhon in view of Gaeris et al. as applied to claim 3 above and further in view of Clark et al. (5,821,466).

Clark et al. discloses a cable comprising a central core (12,14) which can be fiber optic element (col. 3, lines 26-270. It would have been obvious to one skilled in the art to use a fiber optic element in the central cavity of the modified Prudhon cable for additional data communication capacity as taught by Clark et al.

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13. Claims 6, 8, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prudhon in view of Hawley (Condensed Chemical Dictionary).

Prudhon discloses the finned element being formed of a solid polymer.

Hawley discloses fluoropolymer being a known material for being used in wire and cable insulation and being a noncombustible material. Therefore, it would have been obvious to one skilled in the art to use fluoropolymer for the finned element of Prudhon since fluoropolymer is a noncombustible material as taught by Hawley.

Hawley also discloses PVC being a known material for being used as electrical insulation and having good dielectric properties. Therefore, it would have been obvious to one skilled in the art to use PVC for the finned element of Prudhon since PVC has good dielectric properties as taught by Hawley.

14. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prudhon in view of Hawley and Sackett (5,313,020).

Hawley discloses fluoropolymer being a known material for being used in wire and cable insulation and being a noncombustible material. Therefore, it would have been obvious to one skilled in the art to use fluoropolymer for the finned element of Prudhon since fluoropolymer is a noncombustible material as taught by Hawley.

Hawley also discloses PVC being a known material for being used as electrical insulation and having good dielectric properties. Therefore, it would have been obvious to one skilled in the art to use PVC for the finned element of Prudhon since PVC has good dielectric properties as taught by Hawley.

Sackett discloses a cable comprising a central core (11) which is formed of foamed polymer. It would have been obvious to one skilled in the art to foam the fluoropolymer and the PVC in the modified cable of Prudhon to reduce the cable weight as taught by Sackett.

15. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleich et al. (5,576,515) in view of Prudhon.

Bleich et al. discloses an unshielded data cable comprising a plurality of twisted pairs of conductors and a non-conductive outer jacket, wherein the cable does not include a shield that encloses any of the conductors.

Bleich et al. does not disclose a central core having a surface that defines channels within which the pairs are individually disposed.

Prudhon discloses a cable comprising a central core having a surface that defines channels within which a plurality of pairs are individually disposed, the core comprising a plurality of fins extending outwardly from the center of the core

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to at least an outer boundary defined by an outer dimension of the pairs, the fins having substantially parallel sides, and each fin extending from the center of the core at substantially right angle to the other fins.

It would have been obvious to one skilled in the art to include the central core as taught by Prudhon into the cable of Bleich et al. to separate the pairs from each other to reduce cross-talk among the pairs as taught by Prudhon.

16. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleich et al. in view of Prudhon as applied to claim 19 above, and further in view of Hawley.

The modified cable of Bleich et al. discloses the central core being formed of a solid polymer and having a filler which is carbon black to render the core conductive (see Prudhon Fig. 2). The modified cable of Bleich et al. does not disclose the core being formed of fluoropolymer. Hawley discloses fluoropolymer being a known material for being used in wire and cable insulation and being a noncombustible material. Therefore, it would have been obvious to one skilled in the art to use fluoropolymer for the modified central core of Bleich et al. since fluoropolymer is a noncombustible material as taught by Hawley.

17. Claims 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bleich et al. in view of Prudhon as applied to claim 19 above, and further in view of Gaeris et al.

Gaeris et al. discloses a cable comprising a central core including a central cavity in which a drain wire is disposed (col. 4, line 65). It would have been obvious to one skilled in the art to provide the modified central core of Bleich et al. with a central cavity such that a drain wire (a metallic wire) or a strength member can be disposed to provide a grounding connection to the cable or to further support the finned element as taught by Gaeris et al.

18. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bleich et al. in view of Prudhon and Gaeris et al. as applied to claim 25 above, and further in view of Clark et al.

Clark et al. discloses a cable comprising a central core (12,14) which can be fiber optic element (col. 3, lines 26-270. It would have been obvious to one skilled in the art to use a fiber optic element in the central cavity of the modified Bleich et al. central core for additional data communication capacity as taught by Clark et al.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau N Nguyen whose telephone number is 308-0693. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308 3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308 3431 for regular communications and (703) 305 1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Chau N Nguyen
Examiner
Art Unit 2831

CN
June 30, 2001